

## **REMARKS**

Applicants respectfully request entry of amendments to claims 1-4, 6-10, and 12-14, and new claim 40. Please cancel claims 5 and 11, and withdraw claims 15-39, without prejudice or disclaimer. Support for the amendments can be found throughout the specification, including paragraphs [0006], [0014], [0043], [0045], Table 3, the Sequence Listing, and the originally filed claims and, therefore, do not add new matter.

Applicants submit that pending claims 1-4, 6-10, 12-14, and 40 are in condition for allowance, and respectfully request that the claims as amended be entered.

### **Restriction Requirement**

Applicants wish to thank the Examiner for rejoining the primer pairs and acknowledging Applicants' request for rejoinder of process claims with an allowable product as required by M.P.E.P. §806.05(h).

### **Rejection Under 35 U.S.C. §112, Second Paragraph**

Claims 3-7 and 12 stand rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite. As claim 5 has been canceled, the rejection as applied to this claim is rendered moot.

Applicants have amended the claims, where appropriate, to recite "nucleic acid sequence." The term "sequence," which is what a sequence identifier denotes, is a term of art and would be known to one of skill in the biotechnology art, to which this invention belongs. As such, one of skill in the art would understand the metes and bounds of the claims.

For these reasons, Applicants respectfully request that the rejection be withdrawn.

Rejections Under 35 U.S.C. §102

Claims 1 and 2 stand rejected under 35 U.S.C. §102(b), as allegedly being anticipated by Bohne et al., Blais et al., or Camilli et al.

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

The Office Action alleges, in pertinent part, that the cited references teach the elements as recited in the present claims, specifically, that the references teach virulence genes “*prfA*, *pclA*, *hyl*[sic], *mpl*, *plcB*, and *actA*.” The instant claims have been amended to recite a specific sequence identifier: i.e., SEQ ID NO: 9. Review of SEQ ID NO: 9 demonstrates that a contiguous reading frame is present within residues 887 to 1500, which delimit a target for PCR amplification using primers defined by SEQ ID NO:26 and SEQ ID NO:27. As a point of reference, the predicted amino acid sequence for this contiguous reading frame is given below:

“VTPLTQLTYFDCSVNPLTELDVSTLSKLTTLHCIQTDLLEIDLTHNTQLIYFQAEGCRKI  
KELDVTHNTQLYLLDCQAAGITELDLSQNPCLVYLYLNNTTELDVSHNTKLKSLSCVN  
AHIQDFSSVGKIPALNNNFEEAGQTITMPKETLTNNSLTIAVSPDLLDQFGNPMNIEPGD  
GGVYDQATNTITWENLSTDNPAV”

Review of the amino acid sequences available from the National Center for Biotechnology Information (NCBI) for the sequences recited in the Action (see, e.g., Exhibits A-F), show that no significant homology exists between the virulence genes recited in the Action and the predicted amino acid sequence from the contiguous reading frame present within SEQ ID NO: 9. Because the present claims expressly recite a sequence identifier, which is not taught or suggested in the references cited, neither Bohne et al., Blais et al., nor Camilli et al., separately or in combination, anticipate the claimed invention.

As stated in Hybritech Inc. v. Monoclonal Antibody, Inc., 231 U.S.P.Q. 81 (Fed. Cir. 1986), “It is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention.”

Therefore, because the instant claims recite a sequence identifier which is not taught or suggested in the references cited, the cited references, alone or in combination, do not anticipate the claimed invention.

Failure of the prior art to meet every element of the claimed invention does not meet the standard under §102. For these reasons, Applicants respectfully request that the rejection be withdrawn.

Claims 1-14 stand rejected under 35 U.S.C. §102(b), as allegedly being anticipated by Kunst et al. or Glasner et al. As Claims 5 and 12 have been canceled, the rejection as applied to these claims is rendered moot.

Applicants traverse the rejection as it might apply to the amended claims, including claims dependent therefrom, for the reasons given below.

The Office Action alleges, in pertinent part, that the cited references teach the elements as recited in the present claims. Glasner et al. is offered to demonstrate the isolation of virulence genes “*prfA*, *pclA*, *hyl*[sic], *mpl*, *plcB*, and *actA*.” Again, as stated above, the instant claims have been amended to recite a specific sequence identifier: i.e., SEQ ID NO: 9. Review of SEQ ID NO:9 demonstrates that a contiguous reading frame is present within residues 887 to 1500, which delimit a target for PCR amplification using primers defined by SEQ ID NO:26 and SEQ ID NO:27. As a point of reference, the predicted amino acid sequence for this contiguous reading frame is given below:

“VTPLTQLTYFDCSVNPLTELDVSTLSKLTTLHCIQTDLLEIDLTHNTQLIYFQAEGCRKI  
KELDVTHNTQLYLLDCQAAGITELDLSONPKLVLYLNNTELTELDVSHNTKLKSLSCVN

AHIQDFSSVGKIPALNNNFEEAGQTITMPKETLTNNSLTIAVSPDLLDQFGNPMNIEPGD  
GGVYDQATNTITWENLSTDNPAV”

Review of the amino acid sequences available from NCBI for the sequences recited in the Action (see, e.g., Exhibits A-F), show that no significant homology exists between the virulence genes recited in the Action and the predicted amino acid sequence from the contiguous reading frame present within SEQ ID NO: 9. Because the present claims expressly recite the sequence identifier, which is not taught or suggested in Glaser et al., the reference does not anticipate the claimed invention.

Regarding Kunst et al., the Office Action states that the claimed sequences, SEQ ID NO: 9, 26, and 27, are disclosed in the reference. While it is not clear as to which search report the Action is referring to in support of the statement that the sequence identifiers are disclosed, the Kunst et al. sequences can be obtained from the PTO website at, for example:

<http://seqdata.uspto.gov/?pageRequest=viewSequence&DocID=20040018514&seqID=2870>

and

<http://seqdata.uspto.gov/?pageRequest=viewSequence&DocID=US20040018514A1&seqID=2909>.

Applicants submit that review of SEQ ID NO: 2909 and 2870 demonstrates that these sequences do not anticipate SEQ ID NO: 9, 26, or 27 as claimed.

Exhibits G and H represent the nucleic acid sequences denoted by sequence identifiers 2870 and 2909 of Kunst et al. At minimum, because both SEQ ID NO: 2870 and 2909 have fewer nucleotides than SEQ ID NO: 9 (2556/759 vs. 2640), SEQ ID NO: 2870 and 2909 are not identical to SEQ ID NO: 9, and thus, do not anticipate SEQ ID NO: 9 as claimed.

Further, Applicants submit that there is no teaching in Kunst et al. which would lead one of skill in the art to make the primers as recited. In the same fashion that genomes do not

inherently anticipate isolated structural genes for want of enablement, Kunst et al. do not provide sufficient guidance to specifically identify the primer sequences as claimed (see, e.g., Chester v. Miller, 15 U.S.P.Q.2d 1281 (Fed. Cir. 1990), where the court stated that “[t]o be prior art under section 102(b), the reference must put the anticipating subject matter at issue into the possession of the public through an enabling disclosure.”). Both SEQ ID NOS: 2870 (2556 nt) and 2909 (759 nt) are orders of magnitude longer than either SEQ ID NO: 26 (21 nt) or 27 (20 nt). And while Kunst et al. may or may not suggest the use of primers for the detection of *Listeria* contamination, there is no guidance which would direct the skilled artisan to choose the specific primers as claimed among all the possible alternative fragments that comprise SEQ ID NOS: 2870 and/or 2909.

As stated in Hybritech Inc. v. Monoclonal Antibody, Inc., 231 U.S.P.Q. 81 (Fed. Cir. 1986), “It is axiomatic that for prior art to anticipate under 102 it has to meet every element of the claimed invention.”

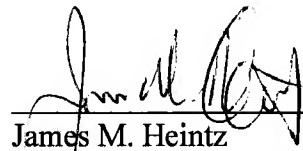
Therefore, because the instant claims a) recite a sequence identifier which is not taught or suggested in the cited references and b) recite specific primer sequences which would not be enabled by the teachings of the cited references, neither Glasner et al. nor Kunst et al. anticipate the claimed invention.

Failure of the prior art to meet every element of the claimed invention does not meet the standard under §102. For these reasons, Applicants respectfully request that the rejection be withdrawn.

In light of the above, Applicants submit that this application is now in condition for allowance and therefore request favorable consideration. If any issues remain which the Examiner feels may be best resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact Applicants counsel, James M. Heintz at 202.861.4167.

Respectfully submitted,

DLA PIPER US LLP



A handwritten signature in black ink, appearing to read 'James M. Heintz', is written over a horizontal line.

James M. Heintz  
Registration No. 41,828

Daryl A. Basham, Ph.D.  
Registration No. 45,869

1200 Nineteenth Street, N.W.  
Washington, D.C. 20036-2412  
Telephone No. 202.861.3900  
Facsimile No. 202.223.2085

# EXHIBIT A

[PubMed](#)
[Nucleotide](#)
[Protein](#)
[Genome](#)
[Structure](#)
[PMC](#)
[Taxonomy](#)
[OMIM](#)
[Books](#)

[Search Protein](#)
[Limits](#)
[Preview/Index](#)
[History](#)
[Clipboard](#)
[Details](#)

[Display](#)
[GenPept](#)
[Show 5](#)
[Send to](#)

Range: from  begin to end
 Features: ☒ CDD

☐ 1: [CAA43524](#). Reports prfA [*Listeria mo...*[gi:48960]]

[BLink](#), [Conserved Domains](#), [Links](#)

[Comment](#) [Features](#) [Sequence](#)

LOCUS CAA43524 237 aa linear BCT 12-JUN-2006  
 DEFINITION prfA [*Listeria monocytogenes*].  
 ACCESSION CAA43524  
 VERSION CAA43524.1 GI:48960  
 DBSOURCE embl accession [X61210.1](#)  
 KEYWORDS .  
 SOURCE *Listeria monocytogenes*  
 ORGANISM *Listeria monocytogenes*  
 Bacteria; Firmicutes; Bacillales; Listeriaceae; Listeria.  
 REFERENCE 1  
 AUTHORS Mengaud,J., Dramsi,S., Gouin,E., Vazquez-Boland,J.A., Milon,G. and Cossart,P.  
 TITLE Pleiotropic control of *Listeria monocytogenes* virulence factors by a gene that is autoregulated  
 JOURNAL Mol. Microbiol. 5 (9), 2273-2283 (1991)  
 PUBMED [1662763](#)  
 REFERENCE 2 (residues 1 to 237)  
 AUTHORS Dramsi,S., Kocks,C., Forestier,C. and Cossart,P.  
 TITLE Internalin-mediated invasion of epithelial cells by *Listeria monocytogenes* is regulated by the bacterial growth state, temperature and the pleiotropic activator prfA  
 JOURNAL Mol. Microbiol. 9 (5), 931-941 (1993)  
 PUBMED [7934921](#)  
 REFERENCE 3 (residues 1 to 237)  
 AUTHORS Cossart,P.F.  
 TITLE Direct Submission  
 JOURNAL Submitted (09-AUG-1991) P.F. Cossart, Inst Pasteur, Lab de Gen Mol des Listeria, 28 rue du DR. Roux, 75015 Paris, FRANCE  
 COMMENT See M55160 for overlapping sequence.  
 FEATURES Location/Qualifiers  
     source 1..237  
         /organism="Listeria monocytogenes"  
         /strain="LO28"  
         /db\_xref="taxon:[1639](#)"  
     Protein 1..237  
         /name="prfA"  
     Region 18..210  
         /region\_name="Crp"  
         /note="cAMP-binding proteins - catabolite gene activator and regulatory subunit of cAMP-dependent protein kinases [Signal transduction mechanisms]; COG0664"  
         /db\_xref="CDD:[31008](#)"



CDS 1..237  
/gene="prfA"  
/coded\_by="X61210.1:274..987"  
/transl\_table=11  
/db\_xref="GOA:P22262"  
/db\_xref="InterPro:IPR000595"  
/db\_xref="InterPro:IPR001808"  
/db\_xref="InterPro:IPR011991"  
/db\_xref="InterPro:IPR012318"  
/db\_xref="PDB:1OMI"  
/db\_xref="PDB:2BEO"  
/db\_xref="PDB:2BGC"  
/db\_xref="UniProtKB/Swiss-Prot:P22262"

## ORIGIN



```
1 mnaqaeeffk yletngikpk qfhkkelifn qwdpqeycif lydgitklts isengtimnl
61 qyykgafvim sgfidtetsv gyynlewise qatayvikin elkellsknl thffyvfgtl
121 qkqvsyslak fndfsingkl gsicgqlil tyvygketpd gikitldnlt mgelgyssgi
181 ahssavsrii sklqekviv yknsfcyvqn ldylkryapk ldewfylacp atwgkln
```

//

[Disclaimer](#) | [Write to the Help Desk](#)  
[NCBI](#) | [NLM](#) | [NIH](#)

Jan 29 2007 13:59 11

# EXHIBIT B



 My NCBI [\[Sign In\]](#) [\[Register\]](#)

[PubMed](#) [Nucleotide](#) [Protein](#) [Genome](#) [Structure](#) [PMC](#) [Taxonomy](#) [OMIM](#) [Books](#)

Search Protein for

[Limits](#) [Preview/Index](#) [History](#) [Clipboard](#) [Details](#)

Display [GenPept](#) ☐ Show 5 ☐ Send to

Range: from begin to end Features: ☒ CDD

☐ 1: [AAAY54619](#). Reports PlcA [*Listeria mo...*][gi:66737346]

[BLink](#), [Conserved Domains](#), [Links](#)

Features Sequence

LOCUS AAY54619 269 aa linear BCT 21-AUG-2006  
 DEFINITION PlcA [*Listeria monocytogenes*].  
 ACCESSION AAY54619  
 VERSION AAY54619.1 GI:66737346  
 DBSOURCE accession [DQ054593.1](#)  
 KEYWORDS .  
 SOURCE *Listeria monocytogenes*  
 ORGANISM [Listeria monocytogenes](#)  
 Bacteria; Firmicutes; Bacillales; Listeriaceae; *Listeria*.  
 REFERENCE 1 (residues 1 to 269)  
 AUTHORS Jiang,L.L., Xu,J.J., Chen,N., Shuai,J.B. and Fang,W.H.  
 TITLE Virulence phenotyping and molecular characterization of a low-pathogenicity isolate of *Listeria monocytogenes* from cow's milk  
 JOURNAL Acta Biochim. Biophys. Sin. (Shanghai) 38 (4), 262-270 (2006)  
 PUBMED [16604266](#)  
 REFERENCE 2 (residues 1 to 269)  
 AUTHORS Jiang,L., Xu,J., Chen,N., Shuai,J. and Fang,W.  
 TITLE Direct Submission  
 JOURNAL Submitted (07-MAY-2005) Institute of Preventive Veterinary Medicine, College of Animal Science, 268 Kaixuan Road, Hangzhou, Zhejiang 310029, China  
 COMMENT Method: conceptual translation.  
 FEATURES  
     source 1..269  
         /organism="Listeria monocytogenes"  
         /strain="10403S"  
         /db\_xref="taxon:[1639](#)"  
     Protein 1..269  
         /product="PlcA"  
     Region 1..256  
         /region\_name="PLCc"  
         /note="Phospholipase C, catalytic domain; Phosphoinositide-specific phospholipases C catalyze hydrolysis of phosphatidylinositol-4,5-bisphosphate (PIP2) to D-myo-inositol-1,4,5-trisphosphate (1,4,5-IP3) and sn-1,2-diacylglycerol (DAG); cd00137"  
         /db\_xref="CDD:[58311](#)"  
     CDS 1..269  
         /gene="plcA"  
         /coded\_by="DQ054593.1:1..810"  
         /transl\_table=11  
 ORIGIN




```
1 msalpdttnl aalsipgthd tmsyngdmtw tltkplaqtg tmslyqglea giryidirak
61 dnlkiyhgpi ylnaslsvgl etitqflkkn pktiimrlk deqnsndsfd yriqpliniy
121 kdyfytprt dtsnkiptlk dvrkilllls enhtkkplvi nsrkfgmqfg apnqviggdy
181 ngpsvktkfk eivqtaygas kadnklflnh isatsltftp rgyaaalnnk veqfvlnlts
241 ekvrglgili mdfpekqtik niiknnkfn
```

//

[Disclaimer](#) | [Write to the Help Desk](#)[NCBI](#) | [NLM](#) | [NIH](#)

Jan 29 2007 13:59:11

# EXHIBIT C

[PubMed](#)
[Nucleotide](#)
[Protein](#)
[Genome](#)
[Structure](#)
[PMC](#)
[Taxonomy](#)
[OMIM](#)
[Books](#)

[Search Protein](#)
[Limits](#)
[Preview/Index](#)
[History](#)
[Clipboard](#)
[Details](#)

[Display GenPept](#)
[Show 5](#)
[Send to](#)

Range: from [begin](#) to [end](#)
 Features: ☒ CDD [+](#) [Refresh](#)

[Go](#) [Clear](#)

[1](#): AAY54621. Reports Mpl [*Listeria mon...*][gi:66737350]

[BLink](#), [Conserved Domains](#), [Links](#)

## Features Sequence

LOCUS AAY54621 510 aa linear BCT 21-AUG-2006  
 DEFINITION Mpl [*Listeria monocytogenes*].  
 ACCESSION AAY54621  
 VERSION AAY54621.1 GI:66737350  
 DBSOURCE accession [DQ054595.1](#)  
 KEYWORDS .  
 SOURCE *Listeria monocytogenes*  
 ORGANISM [Listeria monocytogenes](#)  
 Bacteria; Firmicutes; Bacillales; Listeriaceae; *Listeria*.  
 REFERENCE 1 (residues 1 to 510)  
 AUTHORS Jiang,L.L., Xu,J.J., Chen,N., Shuai,J.B. and Fang,W.H.  
 TITLE Virulence phenotyping and molecular characterization of a low-pathogenicity isolate of *Listeria monocytogenes* from cow's milk  
 JOURNAL *Acta Biochim. Biophys. Sin. (Shanghai)* 38 (4), 262-270 (2006)  
 PUBMED [16604266](#)  
 REFERENCE 2 (residues 1 to 510)  
 AUTHORS Jiang,L., Xu,J., Chen,N., Shuai,J. and Fang,W.  
 TITLE Direct Submission  
 JOURNAL Submitted (07-MAY-2005) Institute of Preventive Veterinary Medicine, College of Animal Science, 268 Kaixuan Road, Hangzhou, Zhejiang 310029, China  
 COMMENT Method: conceptual translation.  
 FEATURES  
     source 1..510  
         /organism="*Listeria monocytogenes*"  
         /strain="10403S"  
         /db\_xref="taxon:[1639](#)"  
     Protein 1..510  
         /product="Mpl"  
     Region 36..510  
         /region\_name="LasB"  
         /note="Zinc metalloprotease (elastase) [Amino acid transport and metabolism]; COG3227"  
         /db\_xref="CDD:[33040](#)"  
     Region 60..196  
         /region\_name="Pep\_M4\_propep"  
         /note="Thermolysin metalloproteinase, propeptide; pfam03413"  
         /db\_xref="CDD:[43339](#)"  
     Region 203..358  
         /region\_name="Peptidase\_M4"  
         /note="Thermolysin metalloproteinase, catalytic domain;

Region pfam01447"  
/db\_xref="CDD:41495"  
360..509  
/region\_name="Peptidase\_M4\_C"  
/note="Thermolysin metallopeptidase, alpha-helical domain;  
pfam02868"  
CDS /db\_xref="CDD:42809"  
1..510  
/gene="mpl"  
/coded\_by="DQ054595.1:1..1533"  
/transl\_table=11

## ORIGIN

```
1 mkskliciim viafqahftm tvkadsvgee klqnntqakk tpadlkalpd sceakdfykn
61 fkildmtkdk lgvthytla l ssggyltdnd eikvhvtpdn kitfingdlq qgqlritnqi
121 kiteknaiek afeaigqsea hvksyvgnpv kekeiilnsr tkrlvynikl ifaepevasw
181 ivqvdaetga ilkkqnm lse veradthkdf qalgkganrl lqrplhvmki ndlfylvdrt
241 hkglirtfdl khntdtsfgk vvsnktnmft dpefssavda hfyasevyey yknvhqlesl
301 dgkggeidsf vhyglncnna fwdgqeilyg dgdkknfkpf scaktivghe lthaviqysa
361 gleyegqsga lnesfadvfg yfiapnhwli gedvcvrgsr dgrirsikdp dkynqaahmk
421 dyeslpit ee gdwggvhyns gipnkaaynt itklgkekte glyfralkyy ltkksqftda
481 kkalqqaakd lygedaskkv aeaweavgvn
```




//

[Disclaimer](#) | [Write to the Help Desk](#)  
[NCBI](#) | [NLM](#) | [NIH](#)

Jan 29 2007 13:59:11

# EXHIBIT D



[PubMed](#)
[Nucleotide](#)
[Protein](#)
[Genome](#)
[Structure](#)
[PMC](#)
[Taxonomy](#)
[OMIM](#)
[Books](#)

Search Protein for

[Limits](#)
[Preview/Index](#)
[History](#)
[Clipboard](#)
[Details](#)

Display [GenPept](#) Show 5 Send to

Range: from begin to end Features: ☒ CDD

☐ 1: [AAAY54609](#). Reports PlcB [*Listeria monocytogenes*] [gi:66737326]

[BLink](#), [Conserved Domains](#), [Links](#)

Features Sequence

LOCUS AAY54609 289 aa linear BCT 21-AUG-2006  
 DEFINITION PlcB [*Listeria monocytogenes*].  
 ACCESSION AAY54609  
 VERSION AAY54609.1 GI:66737326  
 DBSOURCE accession [DQ054583.1](#)  
 KEYWORDS .  
 SOURCE *Listeria monocytogenes*  
 ORGANISM *Listeria monocytogenes*  
 Bacteria; Firmicutes; Bacillales; Listeriaceae; *Listeria*.  
 REFERENCE 1 (residues 1 to 289)  
 AUTHORS Jiang,L.L., Xu,J.J., Chen,N., Shuai,J.B. and Fang,W.H.  
 TITLE Virulence phenotyping and molecular characterization of a low-pathogenicity isolate of *Listeria monocytogenes* from cow's milk  
 JOURNAL Acta Biochim. Biophys. Sin. (Shanghai) 38 (4), 262-270 (2006)  
 PUBMED [16604266](#)  
 REFERENCE 2 (residues 1 to 289)  
 AUTHORS Jiang,L., Xu,J., Chen,N., Shuai,J. and Fang,W.  
 TITLE Direct Submission  
 JOURNAL Submitted (07-MAY-2005) Institute of Preventive Veterinary Medicine, College of Animal Science, 268 Kaixuan Road, Hangzhou, Zhejiang 310029, China  
 COMMENT Method: conceptual translation.  
 FEATURES Location/Qualifiers  
     source 1..289  
         /organism="*Listeria monocytogenes*"  
         /strain="10403S"  
         /db\_xref="taxon:1639"  
     Protein 1..289  
         /product="PlcB"  
     Region 1..289  
         /region\_name="Zn\_dep\_PLPC"  
         /note="Zinc dependent phospholipase C; pfam00882"  
         /db\_xref="CDD:40959"  
     CDS 1..289  
         /gene="plcB"  
         /coded\_by="DQ054583.1:1..870"  
         /transl\_table=11  
 ORIGIN  
     1 mkfknvvlgm cltasvlvfp vtikanaccd eylqtpaaph didsklphkl swsadnptnt  
     61 dvnthywlfk gaekipakdv nhmranlmne lkkfdkqiaq giydadhknk yydtstflph  
     121 fynpdrdnty lpgfanakit gakyfnqsvt dyregkfda fyklglaihy ytdisqpmha  
     181 nnftaisypp gyhcayenyv dtikhnyqat edmvakrfcs ddvkdwlyen akrakadypk

// 241 ivnaktkksy lvgnsewkkd tveptgarlr dsqgtlagfl efwskktn

[Disclaimer](#) | [Write to the Help Desk](#)  
[NCBI](#) | [NLM](#) | [NIH](#)

Jan 29 2007 13:59:11

# EXHIBIT E



```

      /region_name="ActA"
      /note="ActA Protein; pfam05058"
      /db_xref="CDD:44961"
Region  <368..604
      /region_name="ActA"
      /note="ActA Protein; pfam05058"
      /db_xref="CDD:44961"
CDS     1..604
      /gene="actA"
      /coded_by="DQ309937.1:9..1823"
      /transl_table=11
ORIGIN
      1 mglnrfrmram mvvfitanci tinpdiifaa tdsedsslnt deweeektee qpsevtgpr
      61 yetarevssr dikeleksnk vkntnkadli amlkakaekg pninnnnseq tenaainee
     121 sgadrpaiqv errhpglpsd saaeikrrrk aiassdsele sltypdkptk vnkkkvakes
     181 vadasesdld ssmqsadest pqplkanqkp ffpkvfkkik dagkwvrdki denpevkka
     241 vdkstaglidq lltkkkseev nasdfppppt deelrlalpe tpmllgfnap tpsepssfef
     301 pppptedelev imretapsld ssftsgdlas lrsainrhse nf sdfppipt eeelngrggr
     361 ptseefssmn sgdfdddens etteaeidrl adlrdrgtgk hsrnagflpl npfisspvps
     421 ltpkvpkisa palisditkk apfknpsspl nvfnkktttk tvtkkptpvk tapklaelpa
     481 tkpgetvlre nktpfiekqa etnkqsinmp slpviqkeat esdkeemkpq teekmveese
     541 sannangknr sagieegkli aksaedekak eepgnhttli lamlaigvfs lgafikiiql
     601 rknn
//
```

[Disclaimer](#) | [Write to the Help Desk](#)  
[NCBI](#) | [NLM](#) | [NIH](#)

Jan 29 2007 13:59:11

# EXHIBIT F



**Protein**
[\[Sign In\]](#)
[\[Regis\]](#)

[PubMed](#)
[Nucleotide](#)
[Protein](#)
[Genome](#)
[Structure](#)
[PMC](#)
[Taxonomy](#)
[OMIM](#)
[Books](#)

Search Protein for

[Limits](#)
[Preview/Index](#)
[History](#)
[Clipboard](#)
[Details](#)

Display GenPept Show 5 Send to

Range: from begin to end Features: ☒ CDD

☐ 1: [ABH11412](#). Reports HlyA [*Listeria mo...*][gi:115395038]

[BLink](#), [Conserved Domains](#), [Links](#)

**Features** **Sequence**

LOCUS ABH11412 277 aa linear BCT 27-DEC-2006  
 DEFINITION HlyA [*Listeria monocytogenes*].  
 ACCESSION ABH11412  
 VERSION ABH11412.1 GI:115395038  
 DBSOURCE accession [DQ812517.1](#)  
 KEYWORDS .  
 SOURCE *Listeria monocytogenes*  
 ORGANISM [Listeria monocytogenes](#)  
 Bacteria; Firmicutes; Bacillales; Listeriaceae; *Listeria*.  
 REFERENCE 1 (residues 1 to 277)  
 AUTHORS Ducey, T.F., Page, B., Usgaard, T., Borucki, M.K., Pupedis, K. and Ward, T.J.  
 TITLE A Single-Nucleotide-Polymorphism-Based Multilocus Genotyping Assay for Subtyping Lineage I Isolates of *Listeria monocytogenes*  
 JOURNAL Appl. Environ. Microbiol. 73 (1), 133-147 (2007)  
 PUBMED [17085705](#)  
 REFERENCE 2 (residues 1 to 277)  
 AUTHORS Ducey, T.F., Page, B., Usgaard, T., Borucki, M.K., Pupedis, K. and Ward, T.J.  
 TITLE Direct Submission  
 JOURNAL Submitted (22-JUN-2006) Microbial Genomics and Bioprocessing Research Unit, United States Department of Agriculture, Agricultural Research Service, 1815 N. University Street, Peoria, IL 61604, USA  
 COMMENT Method: conceptual translation.  
 FEATURES Location/Qualifiers  
 source 1..277  
 /organism="*Listeria monocytogenes*"  
 /strain="NRRL 33466"  
 /db\_xref="taxon:1639"  
 Protein <1..>277  
 /product="HlyA"  
 Region <1..277  
 /region\_name="Thiol\_cytolysin"  
 /note="Thiol-activated cytolysin; pfam01289"  
 /db\_xref="CDD:41345"  
 CDS 1..277  
 /gene="hlyA"  
 /coded\_by="DQ812517.1:<1..>831"  
 /transl\_table=11  
 ORIGIN  
 1 akfgtafkav nnslnvnfga isegkmqeev isfkqiynv nvneptrpsr ffgkavtkeq

```
61 lqalgvnaen ppayissvay grqvylklst nshstkvkaa fdaavsgksv sgdveltnii
121 knssfkaviy ggsakdevqi idgnlgdlrd ilkkgatfnr etpgvpiayt tnflkdnela
181 viknnseyie ttaskaytdgk inidhsggyv aqfniswdei nydpegneiv qhknwsennk
241 sklahftssi ylpgnarnin vyakectgla wewwrtv
```

//

[Disclaimer](#) | [Write to the Help Desk](#)  
[NCBI](#) | [NLM](#) | [NIH](#)

Jan 29 2007 13:59:11

# EXHIBIT G





United States Patent and Trademark Office

[Home](#) | [Site Index](#) | [Search](#) | [FAQ](#) | [Glossary](#) | [Guides](#) | [Contacts](#) | [eBusiness](#) | [eBiz alerts](#) | [News](#) | [Help](#)

## Publication Site for Issued and Published Sequences (PSIPS)

### PSIPS View Sequence(s): 2870 for 20040018514

Here is the list of the requested sequences.

Sequence ID <210> SEQ ID NO 2870  
 No: <211> LENGTH: 2556  
 <212> TYPE: DNA  
 <213> ORGANISM: *Listeria monocytogenes* EGDe  
 <400> SEQUENCE: 2870

First  
Sequence

Next  
Sequence

Previous  
Sequence

Last  
Sequence

Full Text  
Publication

PSIPS Home  
Page  
NCBI Home  
PIW and AIW  
Search Home  
Page  
Document  
Services  
Division  
USPTO Home

Help Page  
FAQ

```

ttgaaaacta ctaaaatagt aattgcctca ttagttagtt taaccatggt ttcaaacccg
cttttaacat tcgcagcaac gaatgatgtt attgataata cgacagaaat cactactgat
aaagaaacaa gctcaactca accaactata aaaaacacac tcaaagccgg tcaaacacaa
agttttaacg actggtttcc tgatgacaat tttgcttcag aggtagcagc agcatttgaa
atgcaagcaa ctgacactat cagcgaagaa caactagcta ctctaacaag tctagattgc
cataattcat ccataaccga tatgactggt attgaaaaat taactggttt aacaaaatta
atttgcacaa gtaacaacat taccaccctt gatcttagcc aaaacactaa ttttaacttat
ctggcatgtg attcaaataa acttacaaac cttgacgtaa ccccgcttac aaaattaacc
tacttaaat gcgacacgaa caaactcaca aagtttagatg taagtcaaaa tccactgtta
actttattaa actgcgcgcg caacacctta accgaaatag atgtcagcca caatacacaa
ttaaccgagc tagactgcca tttaaataaa aaaatcacca aattagatgt gacaccacaa
actcaattaa caaccttaga ctgtagcttt aataaaataa ctgaattaga tgtaagtcaa
aataaactac tgaaccgtct aaactgcgac actaataata taactaaact ggacctcaac
caaaatattc agctaacttt cctagattgc tccagtaaca aattaaccga aatagatgta
accccgctta cacagttaac atattttgat tgtagcgtaa atcctttaac tgaattagat
gtatctacgc tttcaaaatt aactacata cattgtatac aaacagattt attagaata
gacctaacac acaacacaca actaatatat ttccaagctg aaggatgtag aaaaataaaa 1
gagcttgatg tcacgcataa tacacaatta tatttattag actgccagc cgctggtata 1
acagaattgg atctttcaca aaacctaaa ttagtctatt tgtattttaa taatactgaa 1
ctaaccggaat tagacgtttc ccataacaca aagctgaaaa gtttgccttg cgtaaatgcg 1
cacatccaag acttctcttc tgtaggtaaa attcctgccc ttaacaataa ttttgaggct 1
gaagggcaaa caatcacgat gcctaaagaa actttaacaa acaacagctt gaccattgca 1
gtttagccctg atttattaga tcagtttgga aatccgatga atattgaacc gggagacggc 1
ggtgtgtacg accaagcaac aaatacaata acttgggaaa atctcagcac agacaatcca 1
gccgtaacct atactttcac ttccgaaaaa ggagctatag taggaaccgt aacaactcca 1
tttgaagcac ctcaacccat caaaggagaa gacgtcacag tacattacct tgatgacaaa 1
ggagaaaaat tggcggatga tgaagtctta agcggtaatt tggacgatcc ttatacttct 1
agcgcaaaag acatcccaga ttatacatta acgactactc cagataacgc aaccggaaca 1
ttcaccacta ctagccagtc cgtaacgtac gtttacacta aaaacatcgt agccgcagag 1
cctgtaaccg ttaattacgt ggacgatact ggaaaaacgc tctctccatc cgaaatatta 1
aacggaaaatg ttggcgacac ttataacgcc actgccaaac aaatcgacgg ctacacatta 1
tccgccgaac caaccaatgc aactggacaa ttcacaagca gcgcgcaaac cgtcaactat 1
atttacacaa aaaatccagc ccctgaaaaa ggagttgtag aaattcacta tgttgacgaa 1
gataataaac aacttaactc caccacagaa atttctggaa caataggaga taactacacg 2
actgagccaa aaactatcga aggtatacgt ttaacaacta caccgggtaa tgcaaccggc 2
actttcacca caggcagcca aaccgtgaca tatgtgtata ctaaaaacat cgaagcagca 2
gagccgataa cagtgaatta cgtggatgct aatggcaaaa cactcgctcc atccgaaca 2
ttaaacggaa acgttgcgga cacatataaa gcaactgcca aacaaatcga cggctacaca 2
ttatccgccc aaccaacca tgcgactgga caattcacaa gtagecgaca aactgtcaac 2
tacatttata cgaaaaacac aaacacagat caacctttac caactaaaaa acctacgaac 2
accacaccaa ccaagccatc taatttaaag acaaccgaag tgaaaaaagc ttcagatacc 2
ctacaaaaaa caggcgattc cgcaccatgg aaatcagctc tacttggggg attcctatca 2
tccacagctc tagttatctg gaaaaagaaa aaatag 2

```

---

**[PSIPS Home](#) | [PSIPS Help Page](#) | [PSIPS Accessibility Help Page](#) | [PSIPS FAQ](#) |  
[PIW and AIW Search Home Page](#) | [Document Services Division](#) |  
[NCBI Home](#)**

**[HOME](#) | [INDEX](#) | [SEARCH](#) | [eBUSINESS](#) | [CONTACT US](#) | [PRIVACY STATEMENT](#)**

Last Modified: 02/05/2007 09:30:31



# EXHIBIT H

**United States Patent and Trademark Office**[Home](#) | [Site Index](#) | [Search](#) | [FAQ](#) | [Glossary](#) | [Guides](#) | [Contacts](#) | [eBusiness](#) | [eBiz alerts](#) | [News](#) | [Help](#)**Publication Site for Issued and Published Sequences (PSIPS)****PSIPS View Sequence(s): 2909 for us20040018514**

Here is the list of the requested sequences.

Sequence ID  
No: **First  
Sequence** **Next  
Sequence** **Previous  
Sequence** **Last  
Sequence****Full Text  
Publication****PSIPS Home  
Page  
NCBI Home  
PIW and AIW  
Search Home  
Page  
Document  
Services  
Division  
USPTO Home****Help Page  
FAQ**

```

<210> SEQ ID NO 2909
<211> LENGTH: 759
<212> TYPE: DNA
<213> ORGANISM: Listeria monocytogenes 4b
<220> FEATURE:
<221> NAME/KEY: misc_feature
<222> LOCATION: (1)..(end)
<223> OTHER INFORMATION: n can be any nucleotide: a,g,c or t/u
<400> SEQUENCE: 2909
ctcttttgggc accctctctc atgcttgagc ggccgacagt gtgctcggaa agaaaatcca
ttgttaactt atttaaactg cgcacgcaac accttaaccg aaatagatgt cagccacaat
acacaattaa ctgagctaga ctgccattta aataaaaaaa tcaccaaatt agatgtgaca
ccacaaactc aattaacaac cttagactgt agctttaata aaataactgc attagatgta
agtcaaaata aattactgaa cgtctaaac tgcgacacta ataataaac taaactggac
ctcaaccaa atattcagct aactttccta gattgctcca gtaacaaatt aaccgaaata
gatgtaaccc cgcttacaca gttaacatat tttgattgta gcgtaaatcc ttttaactgaa
ttagatgtgt ctacgcttcc aaaattaact aactacact gtatacaaac agatttatta
gaaatagacc taacacacaa cacacaatta atatatattc aagctgaagg atgtagaaaa
ataaaagagc ttgatgtcac gcataatata caattatatt tattagactg ccaagccgct
ggtataacag aattggatct ttcacaaaac ccaaattag tctatttgta tttaaataat
actgaactaa cgaaattaga cgtttctgat aacacaaagc tgaaaagttt gtcttgcgta
aatgctcaca tgcaagactt ctctttgtag gtaaaattc

```

**[PSIPS Home](#) | [PSIPS Help Page](#) | [PSIPS Accessibility Help Page](#) | [PSIPS FAQ](#) |  
[PIW and AIW Search Home Page](#) | [Document Services Division](#) |  
[NCBI Home](#)**

**[HOME](#) | [INDEX](#) | [SEARCH](#) | [eBUSINESS](#) | [CONTACT US](#) | [PRIVACY STATEMENT](#)**

Last Modified: 02/05/2007 09:30:15

